# Tuna Newsletter



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*Wes Parks, Editor*

## THE U.S. TUNA INDUSTRY IN THIRD QUARTER 1988


*Wes Parks,* SWFC
*Pat Donley,* SWR
*Diane Pickelsimer,* SWFC


**Sixty-eight vessels of the U.S. tropical tuna purse seine fleet were at sea** at least one day during the third quarter of 1988, down three vessels from the number active in the third quarter of 1987 (Table 1). Total capacity at sea was up 4%.

**Table 1.** Number of active U.S. purse seine vessels and capacity (st) in the third quarter of 1988 and 1987.

| AREA | 1988 | 1987 |
|---|---|---|
| | Third quarter | |
| | No. of vessels | |
| W. ATL. | 0 | 0 |
| E. PAC. | 38 | 41 |
| W. PAC | 30 | 30 |
| TOTAL | 68 | 71 |
| | Capacity | |
| W. ATL. | 0 | 0 |
| E. PAC | 36,855 | 34,647 |
| W. PAC | 38,275 | 37,275 |
| TOTAL | 75,130 | 71,922 |

**Receipts of all tuna species totaled 134,997 short tons (st)** at U.S. canneries during the third quarter of 1988, down 15% from third-quarter 1987 and down 6% from the recent long-term (1983-1987) average (Table 2). Deliveries in the third quarter from domestic sources, 59,795 st, were off 4% from 1987 while imports, 75,202 st, were down 22%.

Skipjack dominated deliveries of raw tuna to U.S. canneries in the third quarter of 1988, comprising 51% of total deliveries.

Receipts of albacore at U.S. canneries in the third quarter of 1988 were 30,324 st, 2% less than deliveries in the third quarter of 1987 and 10% less than recent average third-quarter deliveries. The eastern Atlantic and western Pacific Oceans were the major fishing areas for albacore delivered to U.S. canneries (Fig. 1).

Third-quarter receipts of skipjack tuna at U.S. canneries were 69,232 st, up 32% from 1987 and 20% from

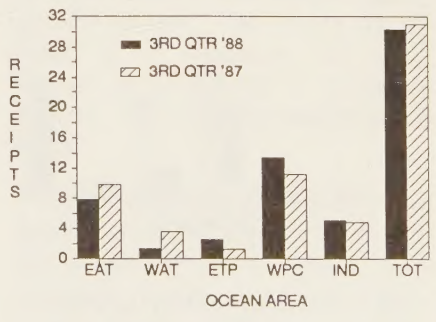


**Fig. 1.** Receipts (1000 st) of albacore to U.S. canneries by ocean area of capture in the third quarter of 1988 and 1987.

recent average deliveries. The western and eastern Pacific Oceans were the major fishing areas for skipjack delivered to U.S. canneries (Fig. 2).

U.S. cannery receipts of yellowfin tuna in the third quarter of 1988 were 35,441 st, down 53% from 1987 and 32% from recent average deliveries. The major fishing area contributing to deliveries was the eastern tropical Pacific Ocean (Fig. 3).

**Tuna fisheries of eight nations provided more than 90% of the raw, frozen tuna imported** to U.S. canneries in the third quarter of 1988 (Table 3). Major suppliers were Taiwan, South Korea and Japan.

**Contract prices for raw tuna remained steady** in third-quarter 1988. Actual prices paid by canneries for raw, frozen tuna are a function of many variables and typically are different for each load received. An index of price is the contract price for U.S. vessels delivering to U.S. canneries. As noted in previous issues, U.S. contract prices (canneries in Puerto Rico) increased dramatically between second- and third-quarter 1987. Prices increased again between fourth- quarter 1987 and first-quarter 1988 and remained steady in the second and third quarters of 1988. The third-quarter price for 7.5 lb and above skipjack tuna was $1,010 per st, up 43% from third-quarter 1987 (Table 4). The third-quarter price for 20 lb plus yellowfin was $1,150 per st, also up slightly from 1987. Prices reported are those paid to U.S. domestic contract vessels and do not apply to deliveries by non-contract domestic and foreign vessels in which case prices vary according to market conditions.

**Wholesale prices for canned tuna increased slightly** in third-quarter 1988. Wholesale list prices asked by canneries and brokers for canned product are also a function of many variables. Though actual wholesale price for any particular transaction is not known, an index of price is price reported periodically by cannery representatives and brokers. As noted in previous issues, reported wholesale list prices in California for tuna packed in water changed from the second to the third quarter of 1987. First- and second-

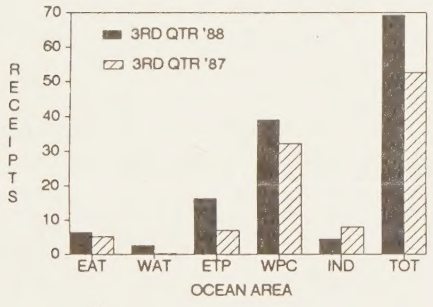


**Fig. 2.** Receipts (1000 st) of skipjack tuna to U.S. canneries by ocean area of capture in the third quarter lof 1988 and 1987.

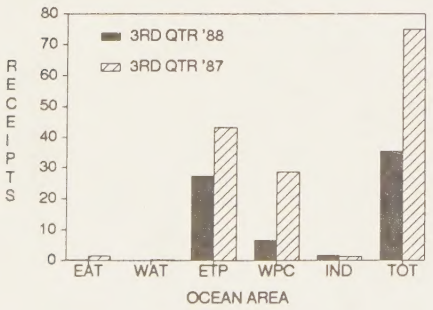


**Fig. 3.** Receipts (1000 st) of yellowfin tuna to U.S. canneries by ocean area of capture in the third quarter of 1988 and 1987.

**Table 2.** U.S. cannery receipts (st) of domestic and imported raw tuna by species in the third quarter of 1988 and 1987.

| | | SPECIES | | | |
|---|---|---|---|---|---|
| YEAR | SOURCE | ALB | SJ | YF[1] | TOTAL |
| 1988 | Domestic | 2,603 | 32,031 | 25,161 | 59,795 |
| | Imported | 27,721 | 37,201 | 10,280 | 75,202 |
| | Total | 30,324 | 69,232 | 35,441 | 134,997 |
| 1987 | Domestic | 1,366 | 18,392 | 42,575 | 62,333 |
| | Imported | 29,683 | 34,245 | 32,203 | 96,131 |
| | Total | 31,049 | 52,637 | 74,778 | 158,464 |
| AVG 83-87 | Domestic | 5,282 | 26,376 | 34,602 | 66,260 |
| | Imported | 28,426 | 31,409 | 17,169 | 77,004 |
| | Total | 33,708 | 57,785 | 51,771 | 143,264 |

[1] Includes a small amount of bigeye, blackfin and bluefin tuna.

**Table 3.** U.S. cannery imports (st) of raw tuna by species and flag of catcher vessel in the third quarter of 1988.

| COUNTRY | ALB | SJ | YF[1] | TOTAL |
|---|---|---|---|---|
| Taiwan | 18,107 | 2,394 | 422 | 20,923 |
| S.Korea | 4,230 | 7,965 | 1,921 | 14,116 |
| Japan | 3,427 | 10,104 | 397 | 13,928 |
| Ghana | 0 | 6,656 | 34 | 6,990 |
| Mexico | 0 | 2,488 | 2,134 | 4,622 |
| France | 166 | 2,599 | 746 | 3,511 |
| Spain | 146 | 1,925 | 786 | 2,857 |
| Vanuatu | 0 | 719 | 1,860 | 2,579 |
| Other | 1,644 | 2,351 | 1,679 | 5,674 |
| Total | 27,720 | 37,201 | 10,279 | 75,200 |

[1] Includes a small amount of bigeye, blackfin and bluefin tuna.

quarter 1988 wholesale prices remained essentially at fourth-quarter 1987 levels. Certain white meat prices then increased in the third quarter while certain light meat prices decreased. Third- quarter 1988 price for advertised-label, white meat tuna canned in water ranged between $64.50 and $67.15 per case of 24, 12.5 oz cans, up from the third-quarter 1987 price (Table 5). The price range for private-label, white meat tuna was $51.00 to $51.50 per case, down slightly.

Reported wholesale list prices in the third quarter of 1988 for advertised-label, light meat tuna canned in water were $42.45 to $45.00 per case of 48, 6.5 oz cans, up from second-quarter 1987 prices. Prices for private-label, light meat tuna were $29.00 to $31.50 per case, up from 1987.

**Table 4.** Contract prices (U.S.$ per st) for raw, frozen skipjack and yellowfin tuna delivered by U.S. vessels to U.S. canneries in Puerto Rico in the third quarter of 1988 and 1987.

| | SKIPJACK | | YELLOWFIN | |
|---|---|---|---|---|
| SIZE CLASS (lbs) | 1988 | 1987 | 1988 | 1987 |
| 20 + | - | - | 1,150 | 1,125 |
| 7.5 to 20 | 1,010 | 1,000 | 1,025 | 1,000 |
| 4 to 7.5 | 945 | 937 | 945 | 937 |
| 3 to 4 | 735 | 725 | 735 | 725 |
| under 3 | 460 | 450 | 460 | 450 |

**Table 5.** Wholesale list price (U.S. $ per case) in California for tuna canned in water for representative case packs in the third quarter of 1988 and 1987.

| CASE PACK | YEAR | ADVERTISED LABEL | PRIVATE LABEL |
|---|---|---|---|
| White meat[1] | 1988 | 64.50 - 67.15 | 51.00 - 51.50 |
| | 1987 | 59.50 - 59.75 | 51.00 - 52.00 |
| Light meat[2] | 1988 | 42.45 - 45.00 | 29.00 - 31.50 |
| | 1987 | 42.45 - 43.50 | 26.50 - 29.50 |

[1]White Meat: solid, 12.5oz (24)
[2]Light Meat: chunk, 6.5oz (48)

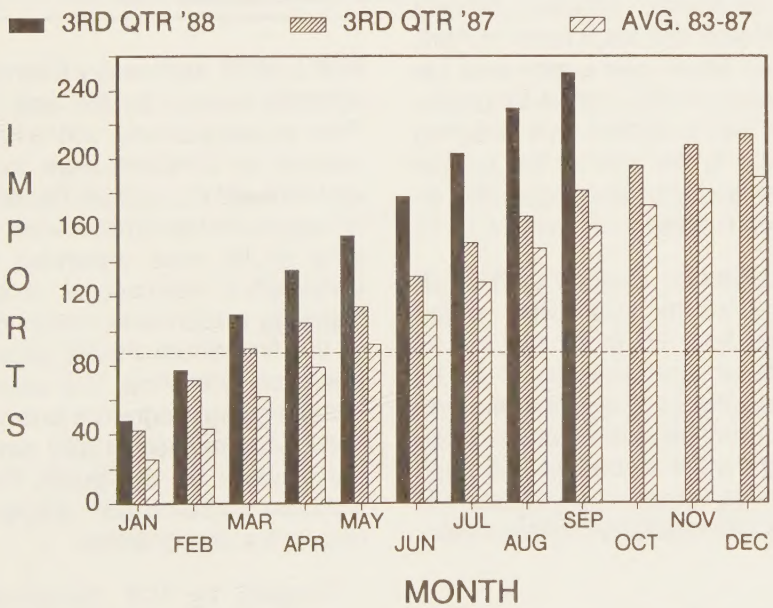


**Fig. 4.** Cumulative imports (millions of lbs) of canned tuna not in oil to the U.S. through the third quarter of 1988 compared to the 1988 quota (dashed line), and 1987 and recent average (1983-87) third-quarter cumulative imports.

**Imports of canned tuna to the U.S. in 1988 continue to outpace both 1987 imports** and recent long-term (1983-1987) average imports (Fig. 4). Cumulative 1988 imports (through the third quarter) of canned tuna not in oil, 250 million pounds, exceeded cumulative 1987 imports by 38%. Cumulative imports exceeded recent average imports by 56%. Imports of canned tuna to the U.S. in excess of an annual quota are subject to increased duty. By the end of the third quarter of 1988, imports exceeded the 1988 quota of 85.2 million pounds by 194%.

## U.S. FISHING IN NEW SOUTH PACIFIC ALBACORE FISHERY EXCELLENT IN 1988, MORE BOATS TO FISH IN 1989

*Mike Laurs,* SWFC

**In 1988, over 40 U.S. jigboats participated in the new South Pacific albacore fishery.** The fishery was successfully developed over the last three years in the central South Pacific Ocean and, in 1988, included vessels from Canada, Tahiti and Fiji as well. The fishery caught 4,500 st of albacore; fish were landed at canneries in American Samoa, Fiji and transshipped at Tahiti.

**Approximately 55 jigboats are fishing in 1989,** about 45 U.S. and the remainder from Canada, New Zealand, Tahiti and Fiji. Early reports are that fishing has been good to excellent in the same general areas as in early 1988.

**The fishery resulted from exploratory fishing and scientific surveys** conducted in 1986 and 1987. The U.S. albacore fishery has operated in the eastern North Pacific for over 75 years. Traditionally, catches were sold to U.S. canneries. The closure in the early 1980's of all but one of the tuna canneries located along the U.S. west coast and Hawaii eliminated a large part of their market and, in response, U.S. albacore fishermen sought both new markets for their North Pacific catches and new fishing areas.

The central South Pacific appeared to hold potential as a new fishing area. The albacore resource has supported a substantial Asian longline fishery since the early 1950's. This fishery caught mainly large, adult fish at considerable depth. Younger, smaller fish were unexploited, except by a small New Zealand coastal fishery. U.S. canneries in Pago Pago offered markets as well as refueling, repair facilities and resupply.

Addressing this potential, exploratory fishing and scientific surveys were conducted in 1986 and 1987 by the U.S. albacore fishing industry, through the American Fishermen's Research Foundation (AFRF), and SWFC. A portion of the exploratory fishing operations conducted by the fishing vessels was funded by Saltonstall-Kennedy (S-K) funds awarded to AFRF.

**Results of the exploratory fishing and scientific surveys suggested that prospects were excellent for establishing a jig fishery** (Tuna Newsletter, issue 88, February, 1988). High catch rates, high total catches and relatively good weather conditions, combined with ready markets and vessel support indicated that U.S. jigboats could economically operate in the South Pacific.

**The fishery landed 4,500 + st of albacore in 1988.** The average catch per boat was about 100 tons.

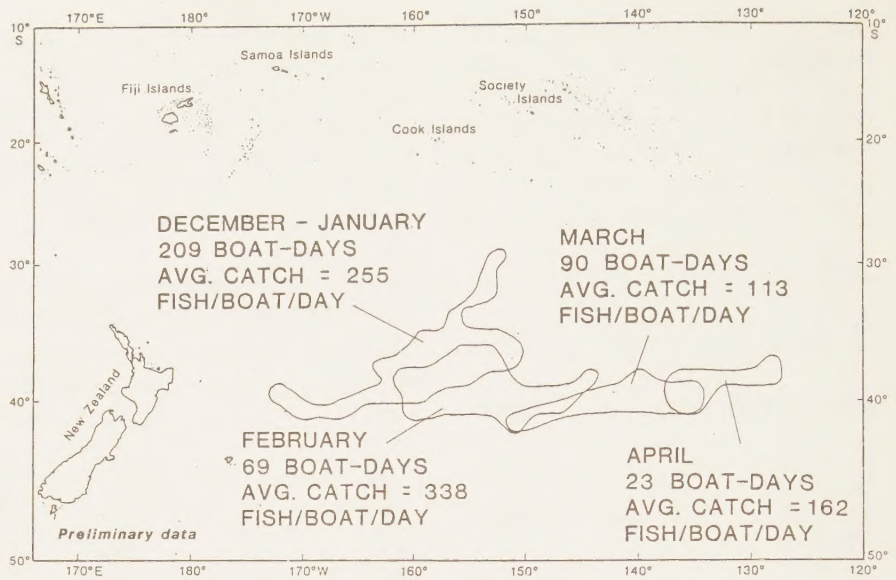


**Fig. 1.** Albacore fishing areas, 1987 and 1988.

A small number of boats arrived in the fishing area during mid-December 1987, and the bulk of the fleet began fishing in mid-January 1988. The majority of the boats fished through about the end of March and by mid-April all of the boats had completed fishing. Catch rates were highest in January and February when the mean catches per boat per day exceeded 250 fish. Most catches were made between 38°-42°S latitude. Catches tended to shift southward between January and March and back north in April. Vessels fished over a wide area between about 170°- 125°W longitude. There was a distinct shift in fishing success to the east as the season progressed, perhaps suggesting an eastward migration of the fish (Fig. 1).

Fishermen avoided smaller albacore and the size of fish landed ranged from 60 to 95 cm in fork length or approximately 6 to 50 pounds (Fig. 2). There was little temporal variation in the size composition of the fish landed, even though there was considerable variation in location of fishing during the season.

**Cooperative albacore tagging continues to have high priority in the fishery.** Tagging was emphasized during the cooperative

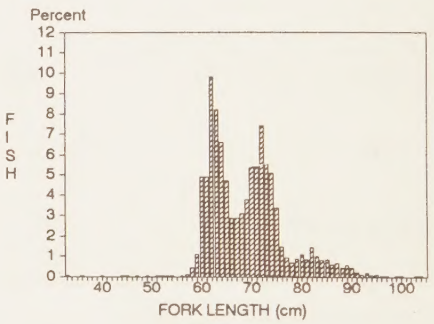


**Fig. 2.** Length frequency of albacore landed, 1988.

NMFS/AFRF exploratory fishing and scientific surveys in 1986 and 1987. Prior to these efforts, only a limited number of albacore were tagged and released in the South Pacific and no tagged fish were recovered. Tagging efforts were expanded to a cooperative international program following a recommendation made at the first South Pacific Albacore Research Workshop. The objective of the tagging program is to develop knowledge needed to fully develop the fisheries on the South Pacific albacore resource and ensure the resource's conservation.

Tagging by U.S. fishermen is coordinated by SWFC which also provides the albacore fishermen with equipment and training and maintains the tag-release database.

**Table 1.** Number of albacore tagged and released in the South Pacific, 1986-1988 (preliminary data).

| Vessel | 1986 | 1987 | 1988 | Total |
|---|---|---|---|---|
| U.S. Fishing Vessels | 702 | 886 | 248 | 1,836 |
| R/V *Townsend Cromwell* | 21 | 425 | --- | 446 |
| R/V *Kaharoa* (New Zealand) | 138 | 178 | 625 | 941 |
| N.Z. Fishing Vessels | --- | 70 | --- | 70 |
| R/V *Coriolis* | --- | 190 | --- | 190 |
| Total | 861 | 1,749 | 873 | 3,483 |

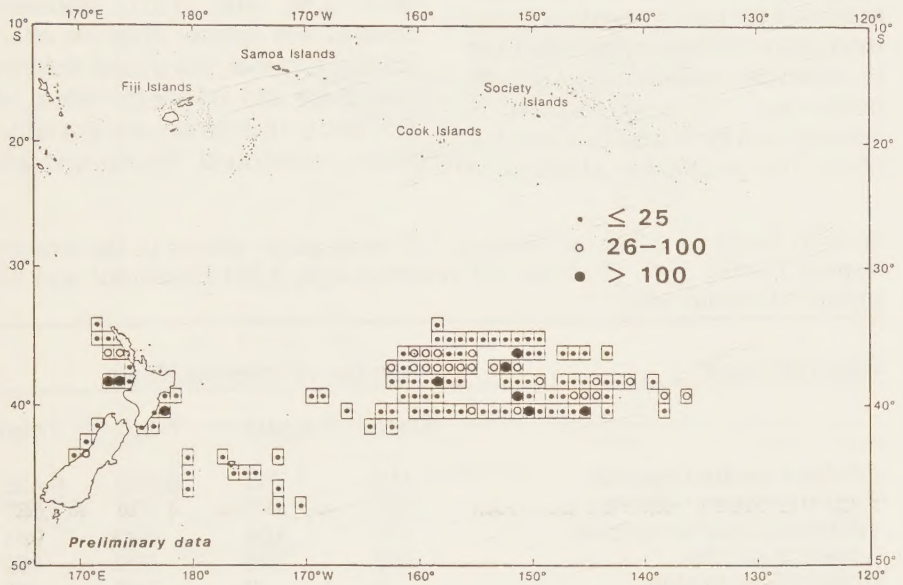


**Fig. 3.** Number of albacore tagged by area, 1988.

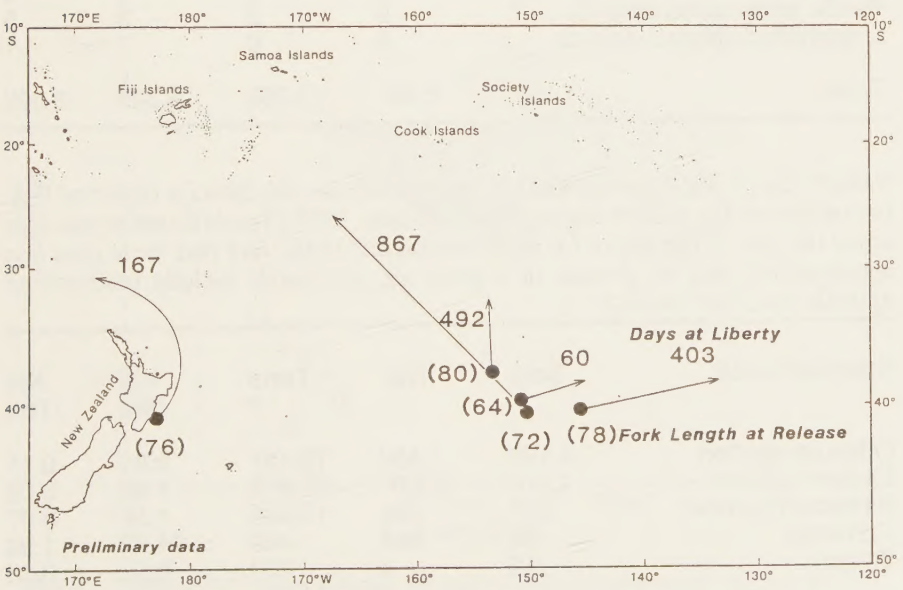


**Fig. 4.** Tagging and recovery locations for albacore recovered in 1988.

Plans call for U.S. fishermen to tag and release 1,500 albacore during the 1989 season. Fishermen will be reimbursed for fish tagged from S-K funds awarded to AFRF and from AFRF funds. New Zealand fishery scientists will also tag albacore in 1989.

During the 1988 fishing season, nearly 3,500 albacore were tagged (Table 1). All tagging by U.S. fishermen and scientists was in the central South Pacific; most New Zealand tagging was in nearshore waters off New Zealand (Fig. 3). Four fish released in the central South Pacific and one released off the east coast of the New Zealand north island have been recovered by the Asian longline fisheries (Fig. 4).

## DOLPHIN MORTALITY RATES IN U.S. TUNA FISHERY DECLINE

*Al Jackson,* SWFC

**Dolphin mortality rates in the U.S. tuna purse seine fishery declined** in 1987. Mortality rates, measured by dolphin kill-per-set and kill-per-ton of yellowfin tuna caught, were down from levels of recent years, according to data collected by observers aboard U.S. tuna purse seiners in the eastern tropical Pacific Ocean (ETP). In 1987, an average of 3.11 dolphins were killed per set compared to the 1986 rate of 7.21 dolphins and the 1981-86 average rate of 4.76 dolphins. The 1987 kill-per-ton rate of 0.18 dolphin also compares favorably to the 1986 and 1981-86 rates of 0.29 and 0.31 dolphin. When examined on a yearly basis since 1981, there appears to be a trend toward a lower kill-per-ton rate. However, no such trend is apparent for the kill-per-set rate (Fig. 1).

Certain species of dolphins are often found in association with yellowfin tuna schools in the ETP. Thousands of these air-breathing animals are killed each year by drowning in the large purse seines before they can be separated from

the tuna catch and safely returned to the open ocean. All U.S. purse seiners setting nets on dolphins in the ETP are required by Federal law to carry an observer on some or all of their fishing trips. The primary responsibility of the observer, a employee of the National Marine Fisheries Service, is to keep an accurate count of the number and species of dolphins killed in each purse seine set. In 1987, observers were aboard for 123 of the 134 fishing trips made by U.S. tuna seiners to the eastern Pacific fishing grounds.

**The 123 observed trips in 1987 resulted in 4,294 intentional sets** on dolphins (purposefully capturing dolphins in the net) for a total catch of 74,446 short tons of yellowfin tuna. This accounts for approximately 67% of all yellowfin tuna caught by U.S. vessels in the ETP in 1987, or 24% of the yellowfin tuna caught in that area by vessels of all flags. In addition to the 4,294 intentional sets on dolphins, 17 accidental sets on dolphins (sets in which there was no intention of capturing dolphins) and 6 sets on live whales were reported for the year.

**An observed total of 13,382 dolphins were killed** by the U.S. fleet in 1987 (Table 1). Of this total, 13,345 dolphins were killed in intentional sets on dolphins and 37 dolphins were killed in accidental dolphin sets. The most frequently killed dolphin species/stocks were offshore spotted (8,436 mortalities), eastern spinner (2,557 mortalities), whitebelly spinner (981 mortalities) and common (882 mortalities). Also killed, but in relatively low numbers, were 52 bottlenose, 16 rough-toothed, 8 striped and 5 Pacific white-sided dolphins. The geographic distribution of total dolphin kill by species/stock is depicted in Fig. 2.

The dolphin species/stock most frequently involved in purse seine sets was the offshore spotted (4,199 sets) with resulting average kill-per-set and kill-per-ton of yellowfin tuna rates of 2.01 and 0.11 dolphins (Table 2). Schools including eastern spinner were involved in 1,716 sets; eastern spinner kill rates were 1.49 and 0.08. Also involved in sets were whitebelly spinner (627 sets, kill rates 1.56 and 0.07). Because spotted and spinner dolphins often school together, the overall dolphin kill-per-set and kill-per-ton rates of 3.11 and 0.18 dolphins are, to a large extent, compound figures and are

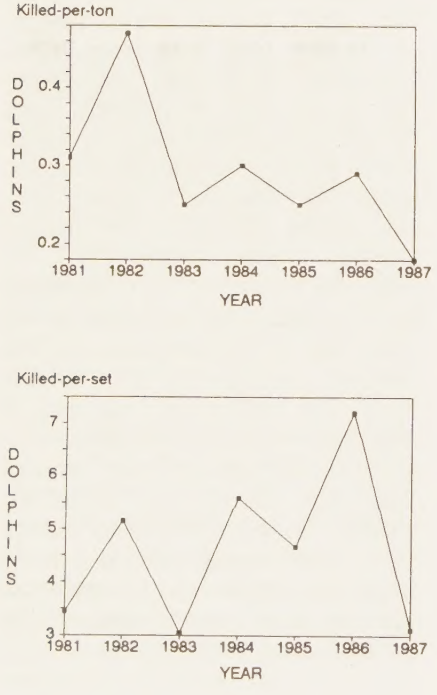


**Fig. 1.** Observed dolphin kill-per-ton rates (top) and Kill-per-set rates (bottom) for U.S. tuna purse seiners in the eastern tropical Pacific Ocean from 1981 to 1987.

**Table 1.** Dolphins killed on observed U.S. tuna purse seiners in the eastern tropical Pacific, 1987. (Includes kill resulting from 4,294 intentional and 17 accidental dolphin sets.)

| Species/Stock | Number of Dolphins Killed | | | |
|---|---|---|---|---|
| | **Male** | **Female** | **?-Sex** | **Total** |
| Offshore spotted dolphin | 1,413 | 1,763 | 5,260 | 8,436 |
| Eastern spinner dolphin | 565 | 490 | 1,502 | 2,557 |
| Whitebelly spinner dolphin | 198 | 194 | 589 | 981 |
| Common dolphin | 149 | 224 | 509 | 882 |
| Unidentified dolphin | 0 | 0 | 389 | 389 |
| Unidentified spinner dolphin | 8 | 1 | 136 | 55 |
| Bottlenose dolphin | 9 | 1 | 132 | 52 |
| Rough-toothed dolphin | 4 | 8 | 4 | 16 |
| Striped dolphin | 5 | 0 | 3 | 8 |
| Pacific white-sided dolphin | 0 | 2 | 3 | 5 |
| Unidentified spotted dolphin | 0 | 0 | 1 | 1 |
| Total- | 2,351 | 2,703 | 8,328 | 13,382 |

**Table 2.** Dolphin kill-per-set and kill-per-ton of yellowfin tuna for observed U.S. tuna seiners in the eastern tropical Pacific Ocean, 1987. (Totals do not necessarily equal the sum of the values for each column due to the fact that more than one species/stock may be present in a given set, and totals include unidentified animals and other stocks.)

| Species/Stock | Sets | Kill | Tons | Kill /Set | Kill /Ton |
|---|---|---|---|---|---|
| Offshore spotted | 4,199 | 8,436 | 73,481 | 2.01 | 0.11 |
| Eastern spinner | 1,716 | 2,557 | 31,019 | 1.49 | 0.08 |
| Whitebelly spinner | 627 | 981 | 14,448 | 1.56 | 0.07 |
| Common | 35 | 864 | 449 | 24.69 | 1.92 |
| Striped | 13 | 8 | 250 | 0.62 | 0.03 |
| All Dolphin Sets- | 4,294 | 13,345 | 74,446 | 3.11 | 0.18 |

higher than the spotted or spinner kill rates when considered separately.

In 1987, common dolphins were much more vulnerable in the nets than were the other dolphin species: 864 common dolphins were killed in a total of only 35 intentional sets with resulting kill-per-set and kill-per-ton rates of 24.69 and 1.92 dolphins. These rates are somewhat affected by a single set that resulted in a kill of 229 common dolphins. However, when that one set is removed from the total, the common dolphin kill-per-set and kill- per-ton rates are still an extremely high 18.7 and 1.41 dolphins.

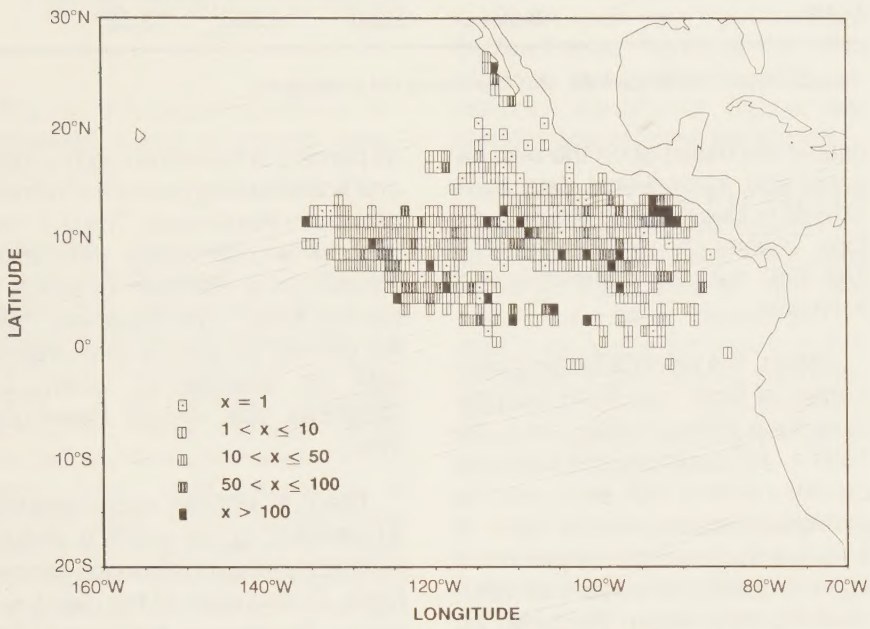


**Fig. 2.** Total number of dolphins killed on observed U.S. tuna purse seiners in 1987 by 1° quadrangle.

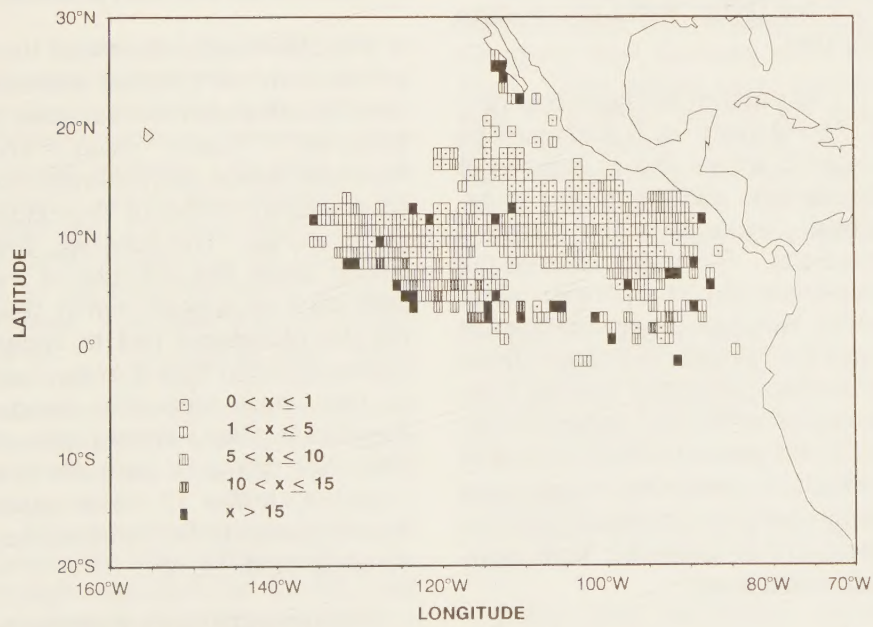


**Fig. 4.** Observed dolphin kill-per-set rates for U.S. tuna purse seiners in 1987 by 1° quadrangle.

**Of the 4,294 intentional sets on dolphins, 61.9% resulted in no dolphin mortality** at all. Sets in which more than 15 dolphins were killed (commonly referred to as disaster sets) accounted for only 4.3% of the total sets. The frequencies of numbers of dolphins killed per set were quite similar for the three most heavily targeted stocks: offshore spotted, eastern spinner and whtebelly spinner dolphins. However, for the less-frequently targeted and differently-behaving common dolphin, there is a pronounced shift to the high end in the kill-per-set frequencies with sets resulting in more than 15 dolphins killed accounting for 42.9% of the total (Fig. 3).

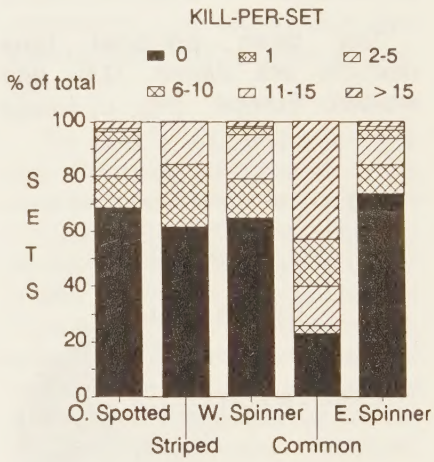


**Fig. 3.** Frequency, as a percentage of the total, of dolphin kill-per-set rates by species/stock for observed US tuna purse seiners in the eastern tropical Pacific in 1987.

**Areas of high dolphin kill-per-set were along the southern periphery of the fishing grounds and off of Baja California,** areas not as heavily fished (Fig. 4). This situation is consistent with that of recent years. The species/stock most often involved in disaster sets along the southern periphery was the offshore spotted; the disaster sets off of Baja California involved the common dolphin, exclusively.

## RECENT TRENDS IN THE INTERNATIONAL TUNA MARKET

*Charles J. Peckham*
LMR Fisheries Research, Inc.,
San Diego, California

**Frozen raw tuna has relatively free access to the principal world markets,** while canned tuna is more restricted as to the number, size and type of markets it may enter as the result of national trade barriers, economic conditions and local eating habits. Canned tuna is a relatively expensive food item and, therefore, most of it is consumed in the developed countries. Tuna is a world commodity item and prices on the export market are set by world supply, demand and price relationships, not subject to control by any one country.

**The three principal tuna markets are Japan, U.S. and western Europe** (Fig. 1.) Usage figures are based upon the best national and international data available as of December, 1988 on landings, imports and exports (Table 1). The 1987 data are preliminary with estimates.

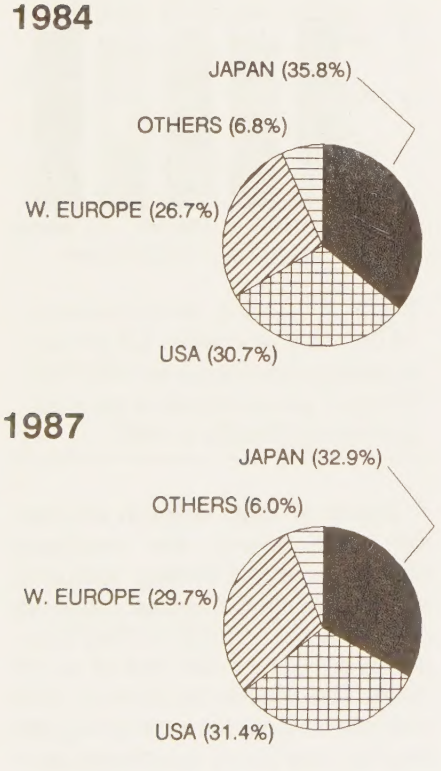


**Fig. 1.** World tuna usage (percent), 1984 (top) and 1987 (bottom).

**Table 1.** Apparent tuna usage (thousands of metric tons/live weight basis) by principal market areas, 1984-1987.[1]

| | Year | | | |
|---|---|---|---|---|
| **Market** | **1984** | **1985** | **1986** | **1987** |
| Japan | 749 | 671 | 755 | 778 |
| United States | 643 | 655 | 733 | 744 |
| Western Europe | 559 | 581 | 662 | 702 |
| Others | 143 | 143 | 150 | 143 |
| Total | 2,094 | 2,050 | 2,300 | 2,367 |

[1]Includes fresh, frozen, canned, etc., inventories not considered.

**Japan, the world's leading consumer of tuna,** has been the principal tuna fishing nation since the 1950's. Although Japan's total production remains high each year, its percentage of the world's catch of tuna has declined from 40 percent in 1980 to about 34 percent in 1987. Until recently, Japan produced far more tuna than its population could consume, and therefore, Japan became the largest exporter of frozen and canned tuna products; especially to the United States and western Europe.

This situation has been changing in recent years, as is evidenced by Japan's annual rise in imports of frozen tuna and the decline in exports, especially the canned products. The rising value of the Jap-anese yen is the primary cause, along with the strong competition from the low-labor-cost South Asian countries producing canned tuna products for export. Japan, like the U.S. and western Europe, is finding difficulty in producing canned tuna which can in world markets with the inexpensive products from low-labor-cost areas.

However, Japan remains the leader in tuna usage with an estimated 778,000 metric tons or about 33 percent of the world catch in 1987 and is the leading consumer of fresh and fresh/ frozen tuna. The U.S. was second in total usage with about 744,000 tons, the bulk of which is canned tuna. The Japanese have the highest per-capita consumption with an average of nearly 6.4 kilograms (live weight basis) per year.

**The U.S. utilizes approximately 31 percent of the world's annual tuna supplies,** mostly in the canned form. During each of the past three years, Americans consumed between 50 and 55 percent of the world's annual canned tuna production. Usage continued to rise in 1988 in both canned and fresh products.

The U.S. supply of canned tuna comes from two principal sources; the domestic pack from canneries in California, Puerto Rico and American Samoa, and the imports of canned tuna from about 15 producing countries. The domestic fleet landed about 285,000 tons of the principal tuna species during 1987 but the processors had to import another 260,000 tons of frozen tuna to help meet production needs. About 33.5 million standard cases of tuna were produced from this tonnage but another 12 million cases were imported to fill the overall national demand (Fig. 2).

There was a temporary worldwide shortage of raw tuna during the latter half of 1987 and exports of canned products to the U.S. declined

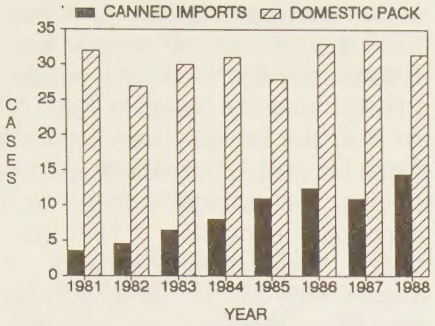


**Fig. 2.** U.S. supply (millions of standard cases) of canned tuna, 1981-1988.

noticeably compared to the year previous. Tuna prices moved higher during that period because of the limited supplies and remained relatively high through the first quarter of 1988. Tuna catches improved during the recent mid-year period and prices have since fallen. At the same time, shelf movement of canned tuna in the supermarkets slowed which also helped to undermine prices. Along with the weakening prices in 1988 came an increase in canned imports which may total a record high 15 million cases this year. The principal supplier presently is Thailand, followed by Taiwan and the Philippines.

**U.S. demand for fresh tuna is growing sharply** with the expanding seafood restaurant trade although demand is minor compared to the canned products. As most of the product enters the market in the fresh form, it is produced seasonally by small coastal longline boats or it is air freighted from as far away as Taiwan, Indonesia and the Philippines. High grade, high value products go into the "sushi" restaurants while the other grades are usually sold as steaks for broiling and sauteeing.

The fresh tuna market is still developing in the United States. Although considerable growth has taken place since 1984, uncertainty exists regarding the current total market needs and potential demand. Yellowfin tuna is the principal species utilized in the trade. Bigeye and bluefin are secondary species, primarily because they are less available and more expensive.

**The domestic landings of fresh tuna are estimated to have been nearly 15,000 tons in 1986** and again in 1987. Some of the high value bluefin tuna are exported fresh to Japan each year from the New England area. Most of the other landings are yellowfin with occasional receipts of bigeye and blackfin tuna entering the market.

The United States imports of the principal fresh market species totaled about 5,500 tons in 1987, compared to 2,400 tons in 1986 and 1,600 tons in 1985. Imports into the Gulf Coast region and New York City come from Latin America, the Caribbean and Europe. California and Hawaii imports come from Asia, the Pacific and Latin America.

**The other large tuna marketing area is western Europe** where the annual consumption, almost entirely canned tuna products, has increased sharply in recent years. Between 1984 and 1987 the annual usage increased nearly 26 percent.

The principal consuming countries are Spain, Italy, France, United Kingdom, West Germany and Portugal. Other nations using canned tuna to a lesser degree are Belgium/Luxembourg, Finland, Denmark, Netherlands, Sweden, Switzerland and Greece. Continued growth in the European market is expected.

## FOURTH EDITION OF *TUNA AND BILLFISH— FISH WITHOUT A COUNTRY* PUBLISHED.

*Nick Webb*
Inter-American Tropical Tuna Commission

*TUNA AND BILLFISH— FISH WITHOUT A COUNTRY* was developed from *Witold Klawe's* 1977 article "What is a Tuna?", in Marine Fisheries Review. The article was intended primarily for fishermen, fisheries biologists and members of the fishing industry and dealt with the taxonomy, distribution, and nomenclature of tunas, billfishes, and related species. The article was well received and it was decided to expand it into a book, aimed at a wider and less specialized audience.

The resulting book is a concise, comprehensive and authoritative reference for all tunas, billfishes, and related species. The text, by *James Joseph,* Director of Investigations of the Inter-American Tropical Tuna Commission, *Klawe,* and *Pat Murphy,* is written in clear, non-technical language. The text covers the life history, taxonomic relationships, physiology, migrations, and geographic ranges of the fish, as well as commercial and recreational fisheries on them and resource conservation.

The book's illustrations are unique. Tuna-related items from tuna eggs to purse-seiners are depicted. All 61 species are illustrated with line drawings, and their ranges described. Full-page color plates are included of 28 of the major species, specially commissioned for the book from *George Mattson*, a renowned water colorist who worked for the NMFS for many years. The paintings of the principal market species are accompanied by maps of the species' geographic ranges, migrations, and principal fisheries. Also featured are a bibliography and a list of all-tackle record sport catches. The introduction is by *Roger Revelle*, Director Emeritus of Scripps Institution of Oceanography.

### Ordering Information:

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Fourth edition, 1988, xi+69 pages, 8 1/2"x11", soft bound, Price $15.75, postage paid.

Spanish version: *ATUNES Y PECES ESPADA— LOS PECES SIN PATRIA*

Third edition, 1986, vii+46 pages, Price $9.95, postage paid.

Both available from:

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# SOME RECENT DEVELOPMENTS IN TUNA FISHERIES

*Editor's note: The following news articles were compiled from reports of the NMFS Branch of Foreign Fisheries Analysis, Office of International Fisheries, Washington, D.C. Dennis Weidner, Don Jacobson, P. Niemeier and Francisco Quintanilla contributed to these reports with the assistance of other NMFS officials and U. S. Foreign Service officers.*

## CARIBBEAN

**Puerto Rican Tuna canneries consider canning in Caribbean**— Tuna canners in Puerto Rico are studying the possibility of transferring part of their operations to Caribbean countries with lower wage rates. Some companies believe that workers in other countries could prepare the loins and then ship them to Puerto Rico for canning. Wages in Rico average about $7.00 per hour, while comparable hourly wages are $2.00 in Venezuela and $0.70 in the Dominican Republic.

## PACIFIC

**Pacific Basin countries to discuss distant-water fishing**— Several Latin American, Pacific island, and Asian countries planned to meet in the Philippines, December 15-17, to discuss policies toward distantwater fishermen. The countries involved plan to consider a proposal made at a September 1988 meeting coordinated by the Organization for Development of Latin American Fisheries (Organizacion de Desarrollo Pesquero Latinoamericano, OLDEPESCA) in Lima, Peru. Participants suggested a 13-point program to standardize licensing requirements for foreign fishermen. Many of the participants are particularly concerned with foreign tuna fishermen. The meeting is being sponsored by OLDEPESCA, the Permanent Commission for the South Pacific, and the Canadian Agency for International Development.

## LATIN AMERICA

**OLDEPESCA meets to discuss E. Pacific tuna convention**— OLDEPESCA held a meeting of ministers in Mexico city November 7-9. One of the issues discussed was the Eastern Pacific tuna convention that OLDEPESCA is promoting. The participants plan on holding a meeting of plenipotentiaries sometime before March 31, 1989 to sign the convention creating an Eastern Pacific tuna management arrangement. Mexico is urging the United States to participate in the OLDEPESCA efforts. The current draft convention primarily reflects the interests of the coastal states, but Mexican officials insist that changes can be made in the draft to reflect the needs of the United States and other distantwater fishing countries.

**Share of Latin American tuna exports shipped to the U.S. declined in early 1988**— Major Latin American tuna exporters (including Mexico, Panama, Venezuela, and Ecuador) have been increasing tuna shipments to Japan and the European Community (EC) in re-cent years. The EC has replaced the U.S. as Latin America's most important market for tuna. Latin American tuna shipments to Japan between January and June 1988 totaled 17,300 mt, a 45% increase over the 11,900 mt shipped during the same period in 1987. Almost all the increase was yellowfin (from Mexico), a species that is becoming increasingly popular with Japanese canneries. The continued increase in shipments to Japan may be a result of lower Japanese landings of yellowfin; Japanese yellowfin landings declined by 20% during the first 3 months of 1988 relative to 1987. To compensate, total yellowfin imports increased by 20%. (Full-year 1987 shipments to Japan from Latin America totaled 21,800 tons.) Latin American shipments to the European Community (EC) totaled approximately 75,000 mt in 1987, a 20% increase over the 62,000 mt shipped in 1986. No partial 1988 data is yet available for Italy (the main EC market for frozen tuna), but Latin American shipments to France during the first 6 months of 1988 increased to 36% to 9,600 mt from the 7,100 mt shipped during the same period in 1987. Most of the increase was due to higher shipments by Panama and Venezuela. French imports from Mexico, Costa Rica, and Ecuador decreased sharply. Latin American tuna exports to the United States during the first 6 months of 1988 totaled only 25,000 mt, a 30% decline from the 35,000 mt shipped between January and June 1987. The decline was largely due to smaller shipments by Mexico and Venezuela. Venezuelan shipments dropped from 10,400 mt to 6,500 mt, and Mexican shipments declined from 7,000 mt to only 800 mt. The reduced Mexican shipments were surprising as Mexico has indicated a desire to substantially increase tuna exports to the United States. Transshipments through Panama also declined in early 1988.

**Brazil and Venezuela cooperate in tuna joint venture**— Venezuelan investors recently met with Brazilian businessmen to discuss possible joint ventures to fish tuna and shark off northeastern Brazil. Brazilian of-

ficials would reportedly like to see a tuna processing plant opened in the region. The Government is currently building a small artisanal fisheries port at San Luis Island. The port has various facilities, including ice plants and cold stores.

**Colombia continues efforts to develop Pacific tuna fishery**– The Colombian Government will help finance a port in Buenaventura at an estimated cost of $24 million. The initial stage, lasting two years, will involve building infrastructure, a pier, shrimp and tuna processing halls, an ice plant, a refueling area, a shipyard, and an artisanal fishermen's service center. The second stage to be initiated after 4 years will include processing plants for tuna, sardines and fishmeal in addition to the purchase of tuna and small pelagic fleets. The Government has already approved $5.3 million for the project. The remainder of the financing will done from different sources.

**Colombia and United States cooperate in tuna joint ventures**– FRICOPESCA, a Colombian fishing company partially owned by the Government, has signed an agreement with a U.S. tuna company to process up to 60 mt of tuna daily. FRICOPESCA President Alvaro Bustamente says that the U.S. company is providing $2 million to improve processing facilities. Press reports suggest that foreign fishing vessels associated with Colombian companies will land about 5,000 mt of tuna annually in Colombia. Colombia is showing increasing interest in developing a domestic tuna fishery.

**Costa Rica considers servicing tuna seiners**– Various parties are studying the possibility of servicing tuna seiners in Costa Rica possibly establishing transshipping activities. A Panamanian company is reportedly arranging for the sale of fuel at Golfito. A San Diego concern is studying future possibilities in Costa Rica. Costa Rican investors have noted Panama's success servicing foreign fishermen. One study suggests that services to the international tuna fleet net Panama about $20 million annually.

**Ecuador and Spain cooperate in tuna joint venture**– An Ecuadorean company has a commercial arrangement with a Spanish company and has obtained Ecuadorean Government permits enabling a Spanish-flag vessel to operate off Ecuador. Spain has not submitted required documentation necessary to export tuna to the U.S. certifying that a program to protect porpoises has been implemented. This situation resulted in an embargo, in mid-December, of shipments of yellowfin from Spain to the U.S.

**Mexican tuna vessels to land in Costa Rica**– Some Costa Rican observers believe that a few tuna companies currently landing their catches in Panama may transfer their operations to the ports of Puntarenas and Golfito because of Panama's political and economic problems. Two companies, Casamar and Aleta Amarilla, have reportedly expressed interest in landing tuna at Golfito. Some tuna vessel owners are apparently requesting that the Costa Rican Government build cold storage facilities at that port. Currently, Golfito cold stores have only 400 cubic meters of capacity, far below the capacity necessary to accommodate a large influx of tuna vessels.

**New Mexican fisheries Minister named**– President Carlos Salinas de Gortari announced his new cabinet on November 30, 1988. His new Fisheries Minister is Lic. Maria de los Angeles Moreno Uriegas. Lic. Moreno was an Under Secretary under Salinas at the Secretariat of Programming and Budget and directed the President-elect's Committee on Fisheries Planning. She has also served on the Board of Directors of Ocean Garden products, the government-owned fisheries export marketing company. She is reputed to be an expert on the international trade in seafood products. President Salinas was inaugurated on December 1,1988.

**Panamanian Tuna Transshipments continue to decline**– Observers in Panama report that transshipments by Venezuelan and Mexican tuna fishermen at Vacamonte declined by 30-40 percent in September and October. Unconfirmed reports suggest that they have also declined at Taboga Island, but no details are available. Previous reports have mentioned the increasing tendency of Mexican fishermen to land their catch in domestic ports. The Venezuelan Government has reportedly authorized price increases making it more profitable for their fishermen to land tuna in domestic ports, although NMFS has no price data confirming this report. Both these countries offer other advantages such as low priced fuel.

**New Peruvian tuna company formed**– A Peruvian investor, Lucas de Tramontana, has launched a new company to fish for tuna, Atunera Tolivariana. The company has bought four 1,000 ton seiners previously owned by the defunct state company Peruana de Pesca (PEPESCA). Two of the vessels had been lying idle near Paita and the other two, which were purchased in kit form from the UK, have lain unfinished at the SIMA shipyard for more than 10 years. The vessels were acquired at a public auction of PEPESCA's assets.

**Peru and Japan consider fisheries agreement**– Fisheries Minister Romulo Leon has announced that Peru is close to signing a fisheries agreement with Japan. His agency has prepared a draft agreement and has submitted it to other ministries for the needed clearances. The agreement will reportedly be with a Japanese association and will focus primarily on tuna longlining. Japanese sources, however, have not confirmed that an agreement is imminent.

**U.S. Tuna Embargoes lifted** – The U.S. recently lifted embargoes on yellowfin tuna imports from four countries. The embargoes had been placed on October 18, 1988 on yellowfin tuna caught by tuna seiners registered to Ecuador, Panama, Vanuatu, and Venezuela. Those countries had failed to provide evidence that they are catching tuna using measures to reduce the incidental killing of porpoises prompting the embargoes. The deadline for submitting required documentation was August 16, 1988. The National Marine Fisheries Service (NMFS) received documentation from Mexico before the deadline. Mexican fishery officials have stated that they want to be in the vanguard of the countries protecting porpoises. NMFS did not receive submissions from any of the other countries until late September. Ecuador made the first submission after the deadline. NMFS officials processed the Ecuadorean submission as quickly as possible, and as a result, the embargo against Ecuadorean-origin yellowfin tuna was lifted on October 28. The submissions from the other countries were also processed expeditiously. The embargo against Vanuatu was lifted in mid-November, and those against Panama and Venezuela were removed on November 21.

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